IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: §
  Daniel E. Jenkins §
        § Confirmation No.: 1696
Serial No. 10/764,627 §
        § Group Art Unit: 2836
Filed: January 26, 2004 §
        § Examiner: Parries, Dru M.
For: INFORMATION HANDLING SYSTEM §
  INCLUDING ZERO VOLTAGE §
  SWITCHING POWER SUPPLY §

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Responsive to the Final Office Action, dated November 26, 2007 please consider the following remarks in connection with the pre-appeal brief request for review. Review of the final rejection is requested for the following reasons:

The rejection of claims 1-3, 5-9, 11-15, 17-20 and 22-24 is not supported by a *prima facie* case of obviousness for claims because the references fail to teach all of the elements of the pending claims.

Claims 1-3, 5-9, 11-15, 17-20 and 22-24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wittenbreder Jr. (U.S. Patent No. 5,402,329) (Wittenbreder hereinafter), Gokhale et al (U.S. Patent Publication No. 2004/0046634) (Gokhale hereinafter), and Liu (U.S. Patent Publication No. 2005/0078440) (Liu hereinafter).

A *prima facie* case of obviousness is missing, at least, because there is no support for an obviousness rejection of the claimed subject matter as a whole because the cited references fail to disclose each element of the claims or suggest the missing elements.

When evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, the rejection specifically fails to show where Gokhale or any of the other references, teach "a load dependent inductor including an air gap defined by first and second *non-parallel* opposed surfaces," as recited in independent claims 1, 7, 13, 19, and 24 and defined throughout the specification and figures of the pending application.

The Examiner acknowledged in the Final Office Action that "Wittenbreder fails to teach an inductor whose inductance increases as current through the inductor decreases, nor does he

teach shape of the core of the inductor, nor does he teach the supply system supplying power to an information handling system." Additionally, Liu is only cited for disclosing "an information handling system (a notebook computer) comprising a processor, a memory coupled to the processor, and a power input coupled to the processor and memory." The deficiencies of Wittenbreder and Liu, in this regard, are not remedied by Gokhale, which is cited for its alleged teaching of an inductor having an inductance that increases as current through the inductor decreases. It is submitted that the Examiner has misinterpreted the teaching of Gokhale and the combination of references fail to teach or suggest all of the limitations of the pending claims.

The rejection points to Figure 16, the Abstract, and paragraphs [0008]-[0010], [0038], and [0060] of Gokhale in arguing that the inductor or core 70 has an air gap having two non-parallel opposed surfaces. However, nothing in the cited sections, or elsewhere in Gokhale teach or suggest anything other than an air gap having parallel opposing surfaces. Gokhale discloses air gaps 62 and 72 in figures 15 and 16 respectively which are described in paragraphs 59 and 60 as not being a "constant air gap" and thus showing two distinct air gaps g1 and g2. However, all the opposing surfaces are parallel. It is submitted that *impermissible hindsight* is used in the rejection on page 2 of the previous Office Action by stating that "depending on the desired inductance characteristics (design choice), one could create an air gap with infinite different widths (i.e. have two slanted (non-parallel) opposed surfaces)." However, a search of Gokhale reveals that the terms "slanted" and "non-parallel" are *not found* in the Gokhale disclosure. A search also yields that the term "parallel" is *only* found in paragraph [0027] of the Gokhale disclosure describing a circuit placement of inductor 12 as being "connected between the cathode of each of diodes D1, D3, and D5 and on terminal of a capacitor 18, labeled as C, which is in parallel with load 20 represented in Fig. 1 by a resistor labeled Rload." Importantly, all of the figures showing air gaps g1 and g2 (Figs 12-16) show the air gaps g1 and g2 as having parallel opposing surfaces. Therefore, neither the specification nor the figures teach or suggest anything other than an air gap or air gaps having opposing parallel surfaces.

In the Final Office Action, the Examiner argues, in part, that

Regarding the Gokhale reference, in paragraphs [0008] and [0009], he teaches the idea of how to make a non-linear inductor from magnetic material "by stacking the laminations to produce an air gap with two or more widths (meaning having infinite widths is a possible design choice); and adjusting the width of the air gap and the number of the laminations to produce a desired non-linear inductance characteristic for the inductor." Gokhale states the general concept of the idea and, therefore, it would be obvious to make an air gap with an

infinitesimal number of different widths, for example, if that was to create an inductor with the desired characteristics that one of ordinary skill in the art wanted.

Page 2 of the Final Office Action.

It is submitted that assuming, for the sake of argument, that even if the design choice led one to design an air gap with "infinite widths", as suggested by the Examiner, (which is not taught or suggested by Gokhale, all of the Gokhale examples show two widths, g1 and g2) that the different widths would necessarily be infinitely small parallel opposing surface steps or simply single points, which are not surfaces.

Additionally, the rejection fails to show how a person having ordinary skill in the art would actually make a non-linear inductor from magnetic material by stacking the laminations (apparently an infinite number of lamingations) to produce an *air gap having infinite widths* or an *air gap with an infinitesimal number of different widths*. Thus, these non-taught, non-suggested, and non-functional, hypothetical examples presented in the rejection are non-enabled. Because the required standard for obviousness prior art is to teach, examples that are not enabled (do not teach how to make and use) therefore, fail as prior art. *See, e.g., In re* Wilder, 429 F.429 F.2d 447, 166 USPQ 545, 548 (C.C.P.A. 1970); *In re* LeGrice, 301 F.2d 929, 133 USPQ 365 (C.C.P.A. 1962); *In re* Brown, 329 F.2d 1066, 141 USPQ 245 (C.C.P.A. 1964).

Furthermore, the term parallel generally is defined as "[b]eing an equal distance apart everywhere." The American Heritage College Dictionary, Third Edition 1993, Houghton Mifflin Company, P990. It is again submitted that one of ordinary skill in the art would find that the teachings and suggestions in Gokhale are for opposing surfaces of multiple air gaps g1 and g2 that are equal distance apart along the surface. As a result, the references applied by the Examiner in this rejection do not teach or suggest that the air gap surfaces be non-parallel. To the contrary, Gokhale and combinations of the other references only disclose parallel surfaces for the air gap.

Still more, the term laminate generally is defined as "[t]o form into a thin sheet . . . [t]o divide into thin layers . . . [t]o bond together in layers." The American Heritage Dictionary, Third Edition 1994, Houghton Mifflin Company, P469. The teaching regarding laminations of Gokhale, follows this general definition, as shown in Figs. 12-14 and is thus parallel sheets.

In the Final Office Action, the Examiner also argues, in part, that

Regarding the argument that creating an air gap with an infinite amount of different widths is not equivalent to an air gap having non-parallel opposed surfaces, the Examiner would like to give an analogous example: take the

number 0.9, if you keep adding a "9" to the right of the decimal point (i.e., 0.999999···), the number keeps getting closer and closer to "1"; however, if you add on an infinitesimal amount of 9's, the number equals 1 (i.e., 0.9 = 1). So, similar to the situation in Gokhale, if the air gap in Fig. 16 kept adding another width (gN, smaller than g(N-1) and to the right of it), one at a time, each surface would get closer and closer to a slanted line. However, by adding an infinite amount of different widths (i.e., g1, g2, g3, ..., g∞) in decreasing width value, each surface would be a slanted line and subsequently the inductor would have an air gap having two non-parallel opposed surfaces slanting inward toward each other. Therefore, Gokhale teaches the idea of having an air gap with two non-parallel opposed surfaces.

Pages 2-3 of the Final Office Action.

It is submitted that the "analogous example" is factually incorrect. Mathmatically, 0.9 may approach 1, but, 0.9 does NOT equal 1. That is a rounded, truncated, or otherwise abbreviated statement that is not taught by Gokhale. To the contrary, mathematically, 0.9 equals 0.9. Also, if one keeps adding another width gn to a laminate stack, smaller than g(n-1) as applied to Fig. 12-14 would create a series of stair steps with parallel opposing levels, NOT a slanted line.

Therefore, it is impossible to render the subject matter of the claims as a whole obvious based on a single reference or any combination of the references, and the above explicit terms of the statute cannot be met. As a result, the USPTO's burden of factually supporting a *prima facie* case of obviousness clearly cannot be met with respect to the independent claims 1, 7, 13, 19, and 24 and their respective dependent claims, and a rejection under 35 U.S.C. §103(a) is not applicable.

In view of all of the above, the allowance of all pending claims is respectfully requested. All arguments previously made but not repeated here are retained.

Respectfully submitted,

Bart A. Fisher
Registration No. 55,181

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HAYNES AND BOONE, LLP
901 Main Street, Suite 3100
Dallas, Texas 75202-3789
Telephone: 512/867-8458
Facsimile: 214/200-0853
ipdocketing@haynesboone.com